



Technologies, Inc.

Non-Confidential  
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**RSPA-97-3100-1**

October 27, 1997

Suzanne Hedgepeth  
Chief, Exemptions Branch  
U.S. Department of Transportation  
400 Seventh Street, SW  
Washington, DC 20590-0001

Subj: EXEMPTION APPLICATION FOR THE MANUFACTURE, MARK AND SALE OF  
NON-DOT SPECIFICATION CYLINDERS FOR USE AS COMPONENTS OF  
AUTOMOBILE VEHICLE SAFETY SYSTEMS.

Dear Ms. Hedgepeth:

1. Pursuant to the requirements of 49 CFR 107.105:

BREED Technologies, Inc.

Street Address:  
5300 Old Tampa Highway  
Lakeland, FL 33811  
Attn: M.P. Vanden Bergh

Mailing Address:  
P.O. Box 33050  
Lakeland, FL 33807-3050  
(941)668-6000

Registration Number: M5118

requests an Exemption for the manufacture, mark and sale of non-DOT specification  
compressed gas cylinders (pressure vessels) for use as components of automobile vehicle  
safety systems.

This application is submitted in duplicate as required by 49 CFR 107.105(a)(1).

2a. PROPOSAL / PURPOSE:

To authorize the manufacture, marking and sale of non-DOT specification compressed

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gas cylinders (pressure vessels) for use as components of automobile vehicle safety systems. The pressure vessels may be charged with non-toxic, non-liquified gases, or mixtures of gases and be authorized for transportation in commerce.

b. TRANSPORTATION AUTHORIZATION:

BREED Technologies, Inc. proposes that this exemption would authorize transportation of the pressure vessels identified herein for up to five years from the date of manufacture.

3. REGULATIONS FROM WHICH EXEMPTED:

49 CFR 173.301(h), 173.302 and 173.306(d)(3) to the extent that non-DOT specification cylinders are not authorized.

4. PACKAGING(S) AND SAFETY CONTROL MEASURES:

Packaging prescribed is a non-DOT specification pressure vessel meeting the following requirements:

a. PACKAGING:

(1) The maximum service pressure at 70°F will not exceed 6000 PSIG. The minimum test pressure is the pressure of the contents at 200°F. The rated service pressure will not exceed 80% of the test pressure and the water volume of each pressure vessel will not exceed one liter.

(2) Material of construction will conform to all requirements of §178.65(b) except that aluminum is limited to 6061 alloy of T6 temper.

(3) Manufacturing requirements will conform to all requirements of §178.65(c).

(4) The minimum wall thickness will be such that the wall stress meets the requirements of §178.65(d).

(5) Openings and attachments will conform to all requirements of §178.65(e) except that a fill port hole of up to 0.130 inches in diameter may be located in an imaginary circle, concentric to the axis of the cylinder, not exceeding 90% of the outside diameter of the cylinder.

(6) Each pressure vessel will be equipped with a pressure relief device designed to meet all the requirements for a rupture disk prescribed in the Compressed Gas Association (CGA) Pamphlet 1-1.1. The pressure relief device shall be capable of preventing rupture of the pressure vessel when subjected to the fire test conducted in accordance with CGA Pamphlet C-14.

(7) Pressure vessels, components and vehicle safety systems shall be transported in strong outside packaging in accordance with 49 CFR 173.301(k).

- b. TESTING:  
(1) Each pressure vessel will be tested as required in §178.65(f) except that the hold time at test pressure specified in §178.65(f)(1) may be limited to that which is adequate to ensure compliance with the requirements contained in §178.65(f) paragraphs (1)(i) and (1)(ii).  
  
(2) The flattening test specified in §178.65(g) is required except that the wedge radius prescribed in paragraph (g)(3) may not exceed 1.5 inches for aluminum pressure vessels having a wall thickness exceeding 0.250 inches.
- c. MARKING:  
Marking shall be at the direction of the RSPA. OHMTS, U.S. Department of Transportation.
- d. INSPECTION:  
Manufacturing will be based on an Independent Inspection Agency's design certification that the pressure vessel designs meet the requirements of sections a, b and c above. The table of approved BREED inflators included in this exemption are as follows:

BREED Part Number	DOT Approval Reference Number
93800200	EX-9610053
97800000	EX-9610053
97800100	EX-9706035
97800110	EX-9706035

5. SPECIAL PROVISIONS:

- a. This exemption is limited to pressure vessels used as components of a vehicle safety system. The pressure vessels are excepted from the requirements of the HMR, Part 178 when the design has been certified by an Independent Inspection Agency approved under §173.300a as having met all the requirements of this exemption.
- b. The Independent Inspection Agency's design certification must include test results and documents related to explosive classification and approval. A copy of the certification must be maintained at each facility where the vehicle safety system is manufactured and by the Independent Inspection Agency for a period of 15 years from the date of completion of the design certification.
- c. Persons who receive the packages covered by this exemption may reoffer them for transportation provided no modifications or changes are made to the packages, all terms of this exemption are complied with and a current copy of this exemption is maintained at each facility from which such reoffering occurs.
- d. BREED Technologies, Inc. must comply with all provisions of this exemption and all other applicable requirements contained in the HMR, Parts 171-177. No

modificatins may be made to the pressure vessel, pyrotechnic components or production vehicle safety system which would affect the performance of the vehicle safety system or its compliance with the requirements of this exemption until such modifications have been reviewd, tested and certified by an Independent Inspector as meeting the requirements of this exemption.

e. Except when transported on passenger carrying aircraft, devices utilizing the non-DOT specificatin pressure vessel authorized herein are exempt from the requirements of 49 CFR Parts 100-199 when installed in a motor vehicle or in completed vehicle components such as steering columns or door panels.

6. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, cargo aircraft only.

7. MODAL REQUIREMENTS:

A copy of this exemption shall be carried aboard each cargo vessel and aircraft used to transport the packages covered by this exemption. The shipper shall furnish a copy of this exemption to the air carrier before or at the time the shipment is tendered.

8. COMPLIANCE:

No person may use or apply this exemption , including display of its number, when the exemption has expired or is otherwise no longer in effect unless a regulation has been amended making the exemption no longer necessary.

9. REPORTING REQUIREMENTS:

BREED Technologies, Inc. shall inform the AAHMS, in writing, of any incidents involving the package and shipments made under the terms of this exemption.

10. SHIPPING EXPERIENCE:

A total of 20,000 vessels have been shipped to date without incident or accident. The vessels shipped were approved November 1, 1996, reference number EX-9610053.

Sincerely,



Michael P. Vanden Bergh  
Corporate Director of Compliance

MPVB:pc